

## CLAIMS

1. Process for producing an RFID label by the use of a printing process, characterized in that at least part of the antenna and oscillating circuit required for the proper functioning of the device is applied to the substrate by sheet-fed offset printing.

2. Process according to claim 1, characterized in that a conductive paste or conductive ink is used to print the (conducting) tracks.

3. Process according to claims 1 and 2, characterized in that the conductive ink is an ink with metal particles.

4. Process according to claims 1 and 2, characterized in that the conductive paste contains carbon black or carbon fibers.

5. Process according to claims 1 and 2, characterized in that the ink is applied in a sheet-fed offset press with gripper transport.

6. Process according to claims 1 and 2, characterized in that the ink is applied within a rotary web offset press.

7. Process according to claim 5, characterized in that the components of the antenna / of the oscillating circuit are applied to the rear surface of the sheet and the sheet is then flipped over in a turning device.

8. Process according to claim 1, characterized in that, after the components of the antenna / of the oscillating circuit have been printed, a protective varnish or protective ink is applied.

9. Process according to claim 8, characterized in that the protective varnish or protective ink is transferred by way of a printing couple in a sheet-fed offset press.

10. Process according to claim 8, characterized in that the protective varnish is transferred by means of a printing couple in a flexo press with an ink chamber blade and screen roller.

11. Process according to claim 8, characterized in that the protective varnish is applied by means of a printing couple in a flexo press with twin-roll capacity.

12. Process for producing an RFID label by the use of a printing process, characterized in that at least part of the antenna and oscillating circuit required for the proper functioning of the device is applied directly or indirectly by means of a letterpress plate.

13. Process according to claim 12, characterized in that the letterpress plate is clamped onto a plate cylinder of a sheet-fed press or web-fed press, and the ink is transferred indirectly by way of a blanket cylinder to the substrate.

14. Process according to claim 12, characterized in that the letterpress plate in the sheet-fed or web-fed press is in direct contact with the substrate.

15. Process according to claim 13 or claim 14, characterized in that the letterpress plate is used in a press which also contains offset printing couples.

16. Process according to claim 1 or claim 12, characterized in that the substrate is a fibrous material.

17. Process according to claim 1 or claim 12, characterized in that the substrate is a film.

18. Process according to claim 1 or claim 12, characterized in that the substrate is a fabric of natural and/or synthetic fibers.

19. Process according to claim 1 or claim 12, characterized in that, in the case of absorbent substrates, the substrate is precoated, prevarnished, or preprinted with a varnish or a preinking medium to reduce the absorbent properties.

20. Process according to claim 19, characterized in that the precoating,  
5 prevarnishing, or preprinting is carried out by direct letterpress.

21. Process according to claim 19, characterized in that the precoating, prevarnishing, or preprinting is carried out by means of a letterpress plate, acting indirectly by way of a blanket cylinder.

22. Process according to claim 19, characterized in that the precoating,  
10 prevarnishing, or preprinting is carried out by means of a printing couple in an offset press.

23. Process according to claim 1 or claim 12, characterized in that, to produce a capacitive element (capacitor), two lines are printed next to each other over a certain portion of their length, the two lines being connected to each other at the ends of the  
15 shorter lines.

24. Process according to claim 1 or claim 12, characterized in that, to produce a capacitive element (capacitor), first the base line is printed, then, in a process according to claim 1 or claim 12, an insulator is printed over part of it, and in a third step the opposing line is printed by a process according to claim 1 or claim 12.

20 25. Process according to one of the preceding claims, characterized in that, as part of the production process, several copies of the antenna and/or part of the oscillating circuit for an RFID label are distributed over a sheet.

26. Process according to claim 25, characterized in that, as part of the production process, several copies of the antenna and/or part of the oscillating circuit for an RFID label are distributed over a sheet, each copy being used for a package or part of a package.

5        27. Process according to claim 25, characterized in that, as part of the production process, several copies of the antenna and/or part of the oscillating circuit for an RFID label are distributed over a sheet, each copy being intended for a single RFID label.

10       28. Process according to claims 25-27, characterized in that the copies on a sheet are separated from each other.

29. Process according to claim 28, characterized in that the copies on a sheet are separated from each other in blocks.

30. Process according to claim 28, characterized in that the copies on a sheet are separated individually from each other.

15       31. Process according to one of claims 25-30, characterized in that the oscillating circuits or chips for RFID labels are applied to the separated copies or blocks of copies after the copies have been uniformly oriented.

20       32. Process according to one of claims 25-30, characterized in that the oscillating circuit or chip for an RFID label is applied to a copy which has been attached to a package.

33. Process according to claim 32, characterized in that the oscillating circuit or chip for an RFID label is applied during the preparation of the package, e.g., in a folding box gluing machine.

34. Process according to claim 32, characterized in that the oscillating circuit or chip for an RFID label is applied during the filling of the package, e.g., in a box-filling station.